

REMARKS

The Office Action dated August 22, 2003 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Upon entry of this Response, claims 1-20 will be pending in the present Application. Claims 1, 5-6, 9-10, 13, and 14 are independent claims. No new matter has been added. Claims 1-20 are respectfully submitted for consideration.

Rejection of Claims 1-3, 6-8, 10-12, 16, and 19 under 35 U.S.C. §102(a):

Claims 1-3, 6-8, 10-12, 16, and 19 have been rejected under 35 U.S.C. §102(a) as being anticipated by the disclosure between page 2, line 5 and page 5, line 18 of the specification and by Figures 1-3 of the present Application. This rejection is respectfully traversed.

Although the above-referenced portion of the specification and Figures 1-3 of the present Application are referred to in the Office Action as "Applicant's admitted prior art", Applicants respectfully point out that the above-referenced portion of the specification is acknowledged only to be "Related Art", and not necessarily "Prior Art". However, for the sake of consistency, the above-referenced portion of the specification and Figures 1-3 of the present Application are referred to herebelow as the Admitted Prior Art (APA).

Claim 1 of the present Application, upon which claims 2-4 and 15-16 depend, recites a method of image compression. The method recited in claim 1 includes

providing digital image data in a computer-readable format, wherein the digital image data includes data on values and coordinates for a plurality of pixels. The method recited in claim 1 also includes selecting a region of interest of an image represented by the digital image data. In addition, the method recited in claim 1 includes sorting and prioritizing the digital image data according to at least two priority categories, with digital image data corresponding to the region of interest having a higher priority than digital image data corresponding to areas outside of the region of interest. Further, the method recited in claim 1 includes transmitting the sorted and prioritized digital image data to a remote location, the the digital information data corresponding to the region of interest being transmitted with higher priority than the areas outside of the region of interest.

Claim 6 of the present Application, upon which claims 7-8 and 19 depend, recites a system for compressing a digital image. The system recited in claim 6 includes input means for inquiring digital image data in computer-readable format with the digital image data including data on values and coordinates for a plurality of pixels for an image. The system recited in claim 6 also includes display means connected to the input means for displaying the digital image data. In addition, the system recited in claim 6 includes selecting means connected to the display means for selecting a region of interest of an image represented by the digital image data. Further, the system recited in claim 6 includes sorting and prioritizing means connected to the selecting means for sorting and prioritizing the digital image data according to at least two priority categories, with

digital image data corresponding to the region of interest having a higher priority than digital image data corresponding to the region of interest having a higher priority than digital image data corresponding to areas outside of the region of interest. Also, the system recited in claim 6 includes transmitting means for transmitting the sorted and prioritized data to a remote location, with the transmitting means transmitting the digital image data corresponding to the region of interest with higher priority than the areas outside of the region of interest.

Claim 10 of the present Application, upon which claims 11-12 depend, recites a computer program embodied on a computer readable medium. According to claim 10, the computer program controlling a general purpose computer to perform the step of displaying digital image data on a display, wherein the digital image data includes data on values and coordinates for a plurality of pixels. The computer program recited in claim 10 also controls the general purpose computer to perform the step of permitting a user to select a region of interest on an image represented on the display by the digital image data. Further, the computer program recited in claim 10 also controls the general purpose computer to perform the step of sorting and prioritizing the digital image data according to at least two priority categories, with digital image data corresponding to the selected region of interest having a higher priority than digital image data corresponding to areas outside of the region of interest. In addition, the computer program recited in claim 10 also controls the general purpose computer to perform the step of transmitting the sorted and prioritized digital image data to a remote location, with the region of

interest being transmitted with higher priority than the areas outside of the region of interest.

Certain embodiments of the claimed invention enable a user at a transmitting end or receiving end to select an appropriate region of interest which is reconstructed, possibly losslessly, and with a higher fidelity than the rest of the image, regardless of the importance of the region of interest in the mean squared error sense. It is respectfully submitted that the APA fails to disclose or suggest at least these advantages and that the claims pending in the present Application are allowable at least for this reason.

The APA discloses set partitioning in hierarchical trees (SPIHT) which uses a zero tree coding of dynamically generating lists for compressing and decompressing images. According to the zero tree coding in the SPIHT of the APA, the coding order is determined by the magnitude of the wavelet transform coefficients of an image.

However, the APA fails to disclose or suggest at least "selecting a region of interest" and "sorting and prioritizing said digital image data according to at least two priority categories, with digital image data corresponding to the region of interest having a higher priority", as recited in claim 1. The APA also fails to disclose or suggest at least the "selecting means...for selecting a region of interest" and "sorting and prioritizing means...for sorting and prioritizing aid digital image data according to at least two priority categories, with digital image data corresponding to the region of interest having a higher priority", as recited in claim 6. Further, the APA fails to disclose at least "permitting a user to select a region of interest" and "sorting and prioritizing said digital

image data according to at least two priority categories, with digital image data corresponding to the selected region of interest having a higher priority", as recited in claim 10.

Applicants respectfully point out that, in contrast to the APA, certain embodiments of the claimed invention compress and decompress images with a coding order that may be flexibly modified according to regions within an image. Hence, the coding method according to certain embodiments of the present invention is not limited to zero tree coding. Rather, the coding method may include any type of bitplane coding.

Applicants also respectfully point out that, in further contrast to the APA, according to certain embodiments of the claimed invention, the coding order for the transform coefficients pertaining to the selected region of interest is determined based on a different criterion from that for the other coefficients. By using different criteria, certain embodiments of the claimed invention make it possible to encode the image with a higher quality on a selected region of interest.

At least for the reasons discussed above, Applicants respectfully submit that the APA fails to disclose or suggest the subject matter recited in claims 1, 6, and 10 of the present Application. Hence, at least for these reasons, Applicants further submit that claims 1, 6, and 10 are patentable over the APA.

Claims 2-3, 7-8, 11-12, 16, and 19 all depend, either directly or indirectly, upon either claim 1, 6, or 10 and thereby inherit all of the patentable distinctions thereof.

Hence, claims 2-3, 7-8, 11-12, 16, and 19 are patentable over the APA at least for the reasons discussed above with reference to either claim 1, 6, or 10.

In addition, Applicants respectfully submit that the APA further fails to disclose or suggest at least reconstructing "the region of interest...at a faster rate than digital image data corresponding to areas outside of the region of interest", as recited in claims 2 and 11. Further, Applicants respectfully submit that the APA also fails to disclose or suggest at least that "the region of interest is reconstructed at a higher fidelity and lower loss than the areas outside of the region of interest", as recited in claim 3.

At least in view of the above remarks, reconsideration and withdrawal of the rejection of claims 1-3, 6-8, 10-12, 16, and 19 under 35 U.S.C. §102(a) over the APA is respectfully requested.

Allowable Subject Matter

Claims 4 and 15 have been objected to as being dependent upon a rejected base claim. However, it has been acknowledged that claims 4 and 15 would be allowable if re-written in independent form. Claims 5, 9, 13-14, 17-18, and 20 have been allowed. Applicants thank the Examiner for the time spent in reviewing these claims and for acknowledging that these claims recite allowable subject matter.

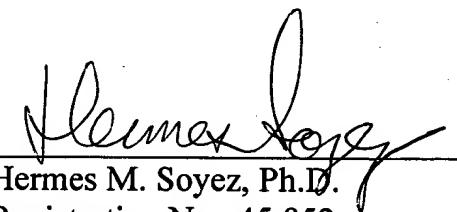
Applicants respectfully submit that all of the remarks in the outstanding Office Action have been addressed and that all of the rejections contained therein have been overcome. Hence, Applicants respectfully further submit that claims 1-20 contain

allowable subject matter. It is therefore respectfully requested that all claims pending in the present application be allowed, and that this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Hermes M. Soyez

Hermes M. Soyez, Ph.D.
Registration No. 45,852

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

HMS:lls